

CLAIM(S):

1. An electrostatic spindle motor apparatus, comprising:
    - a stator, the stator having a first plurality of surface electrodes;
    - 5 a rotor, the rotor having a second plurality of surface electrodes;

the first plurality of surface electrodes spaced apart from the second plurality of electrodes to provide capacitive coupling, at least one of the first plurality of surface electrodes and the second plurality of surface electrodes configured to conduct electrical charge; and

  - 10 a source configured to provide electrical charge to the at least one of the first plurality of surface electrodes and the second plurality of surface electrodes and to alternate electrical polarity.
2. The apparatus of claim 1 wherein the rotor is a disc media.
  3. The apparatus of claim 1 wherein the rotor and the stator are spaced apart in a  
15 range of approximately one to five microns.
  4. The apparatus of claim 1 wherein the rotor and the stator comprise opposing bearing surfaces.
  5. The apparatus of claim 4 wherein the rotor comprises a herring bone pattern.
  6. The apparatus of claim 4 wherein the stator comprises a herring bone pattern.
  - 20 7. The apparatus of claim 1 wherein the rotor is supported at least in part with a ring bearing and a spindle shaft.
  8. The apparatus of claim 7 wherein the rotor is supported with a fluid
  9. The apparatus of claim 8 wherein the fluid has a dielectric constant greater than one.
  - 25 10. The apparatus of claim 1 wherein the rotor is supported at least in part with a

nub attached to the stator.

11. The apparatus of claim 10 wherein the rotor defines a dimple configured to receive an end of the nub.

12. An electrostatic spindle motor apparatus, comprising:

5 a stator, the stator having a first plurality of surface electrodes and a first fluid dynamic bearing surface;

a rotor, the rotor having a second plurality of surface electrodes and having a second fluid dynamic bearing surface;

10 the first plurality of surface electrodes spaced apart from the second plurality of electrodes to provide capacitive coupling, at least one of the first plurality of surface electrodes and the second plurality of surface electrodes configured to conduct electrical charge; and

15 a source configured to provide electrical charge to the at least one of the first plurality of surface electrodes and the second plurality of surface electrodes and to alternate electrical polarity.

13. The apparatus of claim 12 wherein the rotor and the stator are spaced apart in a range of approximately one to five microns.

14. The apparatus of claim 12 wherein the rotor comprises disc media.

15. The apparatus of claim 14 wherein the rotor comprises a herring bone pattern.

20 16. The apparatus of claim 14 wherein the stator comprises a herring bone pattern.

17. The apparatus of claim 14 further comprising a fluid for the first fluid dynamic bearing surface and the second fluid dynamic bearing surface, the fluid having a dielectric constant greater than one.

18. An electrostatic spindle motor apparatus, comprising:

25 first electrode means for providing alternating electrical charge thereto;

second electrode means spaced apart from the first electrode means for

capacitive coupling with the first electrode means to provide electromotive force; and

means for providing the alternating electrical charge.

19. The apparatus of claim 18 further comprising fluid dynamic bearing surface  
means and fluid means in combination for maintaining a gap between the first electrode  
5 means and the second electrode means.

20. The apparatus of claim 19 wherein the fluid means has a dielectric constant  
greater than one.

10  
20  
30  
40  
50  
60  
70  
80  
90  
100  
110  
120  
130  
140  
150  
160  
170  
180  
190  
200  
210  
220  
230  
240  
250  
260  
270  
280  
290  
300  
310  
320  
330  
340  
350  
360  
370  
380  
390  
400  
410  
420  
430  
440  
450  
460  
470  
480  
490  
500  
510  
520  
530  
540  
550  
560  
570  
580  
590  
600  
610  
620  
630  
640  
650  
660  
670  
680  
690  
700  
710  
720  
730  
740  
750  
760  
770  
780  
790  
800  
810  
820  
830  
840  
850  
860  
870  
880  
890  
900  
910  
920  
930  
940  
950  
960  
970  
980  
990  
1000